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5. (Amended) The bead molding method as claimed in claim 1, further comprising a discharging device including an inner nozzle elongated at a tip portion thereof and an outer nozzle elongated about and enclosing an outer periphery of the inner nozzle; wherein:

the gas stream forming step forms the gas stream in the one direction by discharging gases from the inner nozzle; and

the material stream forming step forms the highly viscous material stream or the foamable material stream in the same direction of the gas stream about and enclosing the gas stream by discharging the highly viscous material or the foamable material from the outer nozzle.

6. (Amended) The bead molding method as claimed in claim 3, wherein there is disposed a discharging device including an inner nozzle elongated at a tip portion thereof and an outer nozzle elongated about and enclosing an outer periphery of the inner nozzle;

the gas stream forming step forms the gas stream in the one direction by discharging the gases from the inner nozzle;

the material stream forming step forms a stream of the highly viscous material or the foamable material in the same direction of the gas stream about and enclosing the gas stream by

discharging the highly viscous material or the foamable material from the outer nozzle; and

the bead molding step molds a hollow bead into a shape corresponding to and following the shape of the applying position by discharging the highly viscous material stream or the foamable material stream toward the work from the inner nozzle and the outer nozzle in the outer peripheral space of the gas stream while transferring the nozzles in a locus corresponding to and following the shape of the applying position.

10. (Amended) The bead molding method as claimed in claim 7, wherein:

there is disposed a discharging device including an inner nozzle elongated at its tip and an outer nozzle elongated about and enclosing an outer periphery of the inner nozzle;

the foamable material stream forming step forms the foamable material stream in the one direction by discharging the foamable material stream from the inner nozzle; and

the material stream forming step forms the highly viscous material stream in the same direction of the foamable material stream and about and enclosing the foamable material stream by discharging the highly viscous material stream from the outer nozzle.

11.(Amended) The bead molding method as claimed in claim 8,
wherein:

there is disposed a discharging device including an inner nozzle elongated at its tip and an outer nozzle elongated about and enclosing an outer periphery of the inner nozzle;

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the foamable material stream forming step forms the foamable material stream in the one direction by discharging the foamable material stream from the inner nozzle;

the material stream forming step forms the highly viscous material stream in the same direction of the foamable material stream by discharging the highly viscous material stream from the outer nozzle; and

the bead molding step molds the foamed bead in a given shape following the shape of the applying position while transferring the inner nozzle and the outer nozzle along a predetermined locus following the work by discharging the foamable material stream and the highly viscous material stream onto the applying position from the inner nozzle and the outer nozzle, respectively.

12. (Amended) The bead molding method as claimed in claim 6,
wherein:

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the discharging device is mounted on a manipulator
disposed to be transferable to a desired position in response to a
control signal; and

the bead molding step for applying and molding the hollow
bead or the foamed bead automatically on the applying position of
a plurality of work members being carried one after another on a
manufacturing line by controlling a movement of the discharging
device by means of the manipulator.

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14. (Amended) The bead molding method as claimed in claim 12,
wherein it is decided to automatically determine whether the bead
is applied and molded in a favorable fashion by desired picking up
an image of the bead applied and molded on the applying position
and comparing the picked-up image of the bead with a reference
image of a bead applied and molded in a predetermined favorable
fashion.

15. (Amended) The bead molding method as claimed in claim 12,
wherein the work member comprises an opening and closing member for
closing a predetermined opening thereof.

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22. (Amended) The bead molding apparatus as claimed in claim 17, wherein the discharging device is arranged so as for each of the inner nozzle and the outer nozzle to change an inner dimension of its inner wall into a smaller size over a region extending from an end portion of connection with a body of the discharging device to a tip portion thereof having a defined inner dimension.

23. (Amended) The bead molding apparatus as claimed in claim 17, wherein an outer wall portion of each of the inner nozzle and the outer nozzle containing an edge section at the top thereof has an inclining surface joining at an acute angle to the direction of the flow of the highly viscous material stream or the foamable material stream.

24. (Amended) The bead molding apparatus as claimed in claim 17, wherein the inner nozzle and the outer nozzle are provided, respectively, with a first control valve for controlling the opening and closing of a path reaching the inner nozzle from the first inlet and a second control valve for controlling the opening and closing of a path reaching the outer nozzle from the second inlet.

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33. (Amended) The bead molding method as claimed in claim 31, wherein the bead molding step molds the hollow bead into a shape

corresponding to and following the shape of a applying position by transferring the hot melt material stream or the foamable hot melt material stream along the applying position while applying the work with the hot melt material or the foamable hot melt material.

A⁷ 37. (Amended) The bead molding method as claimed in claim 35, wherein:

there is disposed a discharging device including an inner nozzle elongated at a tip portion thereof and an outer nozzle elongated enclosing an outer periphery of the inner nozzle;

the foamable material stream forming step forms the foamable hot melt material stream in the one direction by discharging the foamable hot melt material from the inner nozzle; and

the material stream forming step forms the hot melt material stream in the direction equal to the direction of the foamable hot melt material stream and enclosing the foamable hot melt material by discharging the hot melt material from the outer nozzle.

A⁸ 39. (Amended) The bead molding method as claimed in claim 37, wherein:

elongated at a tip portion thereof and an outer nozzle elongated about and enclosing an outer periphery of the inner nozzle; wherein:

the gas stream forming step forms the gas stream in the one direction by discharging gases from the inner nozzle; and

the material stream forming step forms the highly viscous material stream or the foamable material stream in the same direction of the gas stream about and enclosing the gas stream by discharging the highly viscous material or the foamable material from the outer nozzle.

46.(NEW) The bead molding method as claimed in claim 11, wherein:

the discharging device is mounted on a manipulator disposed to be transferable to a desired position in response to a control signal; and

the bead molding step for applying and molding the hollow bead or the foamed bead automatically on the applying position of a plurality of work members being carried one after another on a manufacturing line by controlling a movement of the discharging device by means of the manipulator.

47.(NEW) The bead molding method as claimed in claim 46, wherein actual applying position of the bead applied by the

discharging device is detected and the manipulator is controlled so as to substantially bring the actual applying position thereof into agreement with a predetermined target applying position.

48.(NEW) The bead molding method as claimed in claim 46, wherein it is decided to automatically determine whether the bead is applied and molded in a favorable fashion by desired picking up an image of the bead applied and molded on the applying position and comparing the picked-up image of the bead with a reference image of a bead applied and molded in a predetermined favorable fashion.

49.(NEW) The bead molding method as claimed in claim 46, wherein the work member comprises an opening and closing member for closing a predetermined opening thereof.

50.(NEW) The bold molding method as claimed in claim 49, wherein the applying position comprises a site disposed along and nearby an edge portion of the opening and closing member, and the hollow bead or the foamed bead applied and molded on the applying position forms a sealing section that seals a gap between the opening and the opening and closing member.

51.(NEW) The bead molding apparatus as claimed in claim 18, wherein the discharging device is arranged so as for each of the inner nozzle and the outer nozzle to change an inner dimension of its inner wall into a smaller size over a region extending from an end portion of connection with a body of the discharging device to a tip portion thereof having a defined inner dimension.

52.(NEW) The bead molding apparatus as claimed in claim 18, wherein an outer wall portion of each of the inner nozzle and the outer nozzle containing an edge section at the top thereof has an inclining surface joining at an acute angle to the direction of the flow of the highly viscous material stream or the foamable material stream.

53.(NEW) The bead molding apparatus as claimed in claim 18, wherein the inner nozzle and the outer nozzle are provided, respectively, with a first control valve for controlling the opening and closing of a path reaching the inner nozzle from the first inlet and a second control valve for controlling the opening and closing of a path reaching the outer nozzle from the second inlet.

54.(NEW) The bead molding apparatus as claimed in claim 53, wherein the discharging device is capable of being hand-carried;

and each of the first control valve and the second control valve is capable of being opened and closed by a manual on-off operation.

55.(NEW) The bead molding apparatus as claimed in claim 53, wherein each of the first control valve and the second control valve is capable of being opened and closed automatically in response to an control signal.

56.(NEW) The bead molding apparatus as claimed in claim 55, further comprising:

a manipulator mounted on the discharging device at a top portion thereof and disposed so as to be movable to a desired position in response to a control signal; and

a control unit for automatically controlling the movement of the manipulator and the discharging of the discharging device in accordance with a predetermined program.

57.(NEW) The bead molding apparatus as claimed in claim 56, wherein the control unit automatically controls the movement of the manipulator and the discharge of the discharging device so as to automatically apply and mold the hollow bead or the foamed bead on a applying position of each of a plurality of work being carried on a manufacturing line one after another.

58.(NEW) The bead molding apparatus as claimed in claim 57, further comprising a detection unit for detecting an actual applying position of work the bead by the discharging device;

wherein the control unit controls the manipulator so as to bring the actual applying position detected thereby substantially into agreement with a predetermined target applying position of work.

59.(NEW) The bead molding apparatus as claimed in claim 58, further comprising an image pick-up unit for picking up an image of the bead applied and molded on the applying position,

wherein the control unit automatically decides to determine whether the bead is applied and applied thereon in a favorable fashion by comparing the image of the bead picked-up by the image pick-up unit with a pre-stored reference image of the bead applied and molded in a favorable fashion.

60.(NEW) The bead molding method as claimed in claim 32, wherein the bead molding step molds the hollow bead into a shape corresponding to and following the shape of a applying position by transferring the hot melt material stream or the foamable hot melt material stream along the applying position while applying the work with the hot melt material or the foamable hot melt material.

61.(NEW) The bead molding method as claimed in claim 60,
wherein:

there is disposed a discharging device including an inner
nozzle elongated at a tip portion thereof and an outer nozzle
elongated about and enclosing an outer periphery of the inner
nozzle;

the gases stream forming step forms the gas stream in a
one direction by discharging gases from the inner nozzle;

the material stream forming step forms the hot melt
material stream or the foamable hot melt material stream in the
same direction as the gas stream by discharging the hot melt
material or the foamable hot melt material from the outer nozzle;
and

the bead molding step forms the hollow bead into the
shape corresponding to and following the shape of the applying
position by transferring the hot melt material stream or the
foamable hot melt material stream along a predetermined locus while
discharging the gas stream from the inner nozzle and the material
stream from the outer nozzle toward the work.
